

PF02006NA

**MULTIPLE ACCESS FREQUENCY HOPPING NETWORK
WITH INTERFERENCE ANTICIPATION**

ABSTRACT

Spread spectrum packet-switching radio devices (22) are operated in
5 two or more ad-hoc networks or pico-networks (19, 20, 21) that share
frequency-hopping channels and time slots that may collide. The frequency
hopping sequences (54) of two or more masters (25) are exchanged using
identity codes, permitting the devices to anticipate collision time slots (52).
Priorities are assigned to the simultaneously operating piconets (19, 20, 21)
10 during collision slots (52), e.g., as a function of their message queue size or
latency, or other factors. Lower priority devices may abstain from
transmitting during predicted collision slots (52), and/or a higher priority
device may employ enhanced transmission resources during those slots, such
as higher error correction levels, or various combinations of abstinence and
15 error correction may be applied. Collisions are avoided or the higher priority
piconet (19, 20, 21) is made likely to prevail in a collision.